



THE AIR UNIVERSITY



PME4L

“Continuous Re-Bluing”

Think Tank Group
“Agile PME, Agile Thinking...Fueling Innovation”



Problem Statement

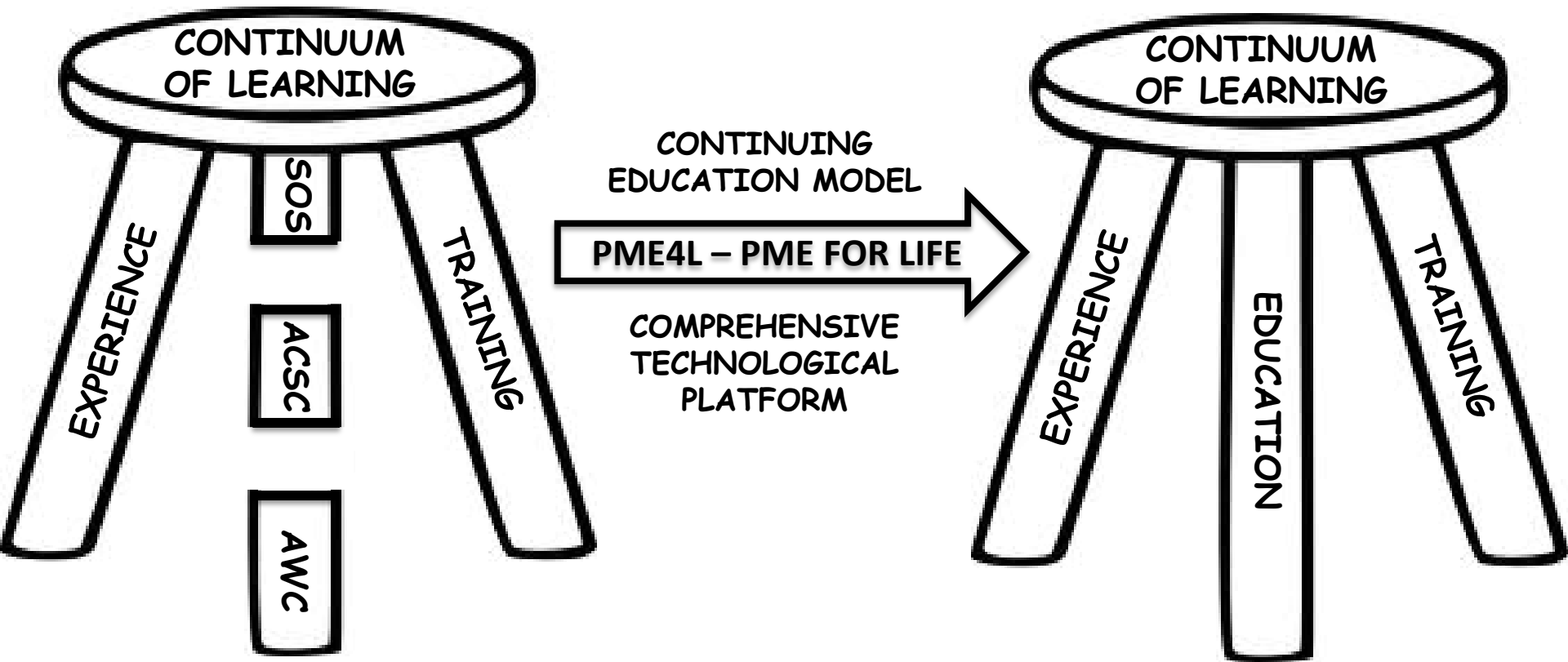


Think Tank Prompt:

**HOW TO LEVERAGE CURRENT
TECHNOLOGY TO ENHANCE
THE USAF PME EXPERIENCE**



Vision





Overview



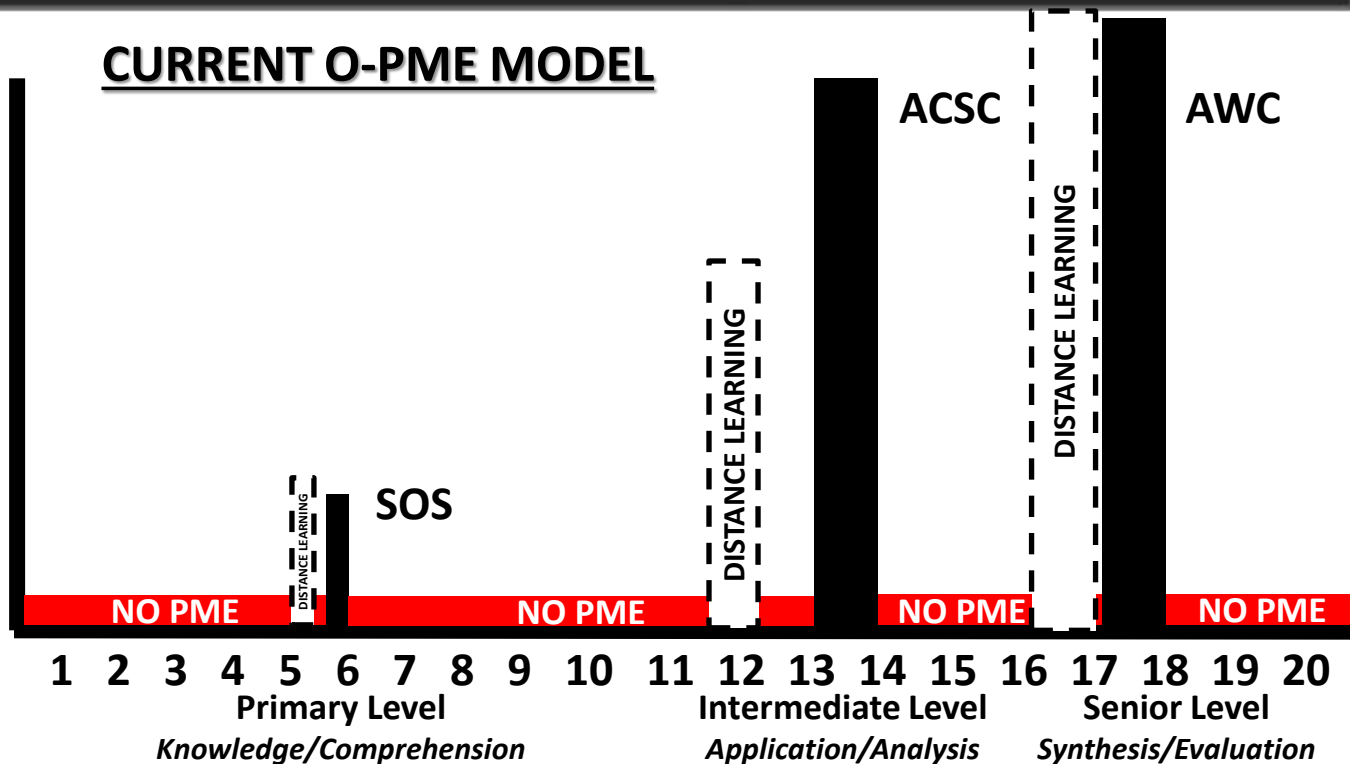
- **Current PME vs PME for Life (PME4L)**
- **PME4L Architecture**
- **Collaboration Tools**
- **Infrastructure**
- **Costs & Benefits**



Current PME vs PME4L



- Touch-points of PME
- Content Availability
- AU Teaches AU Stnd
- Limited Collaboration



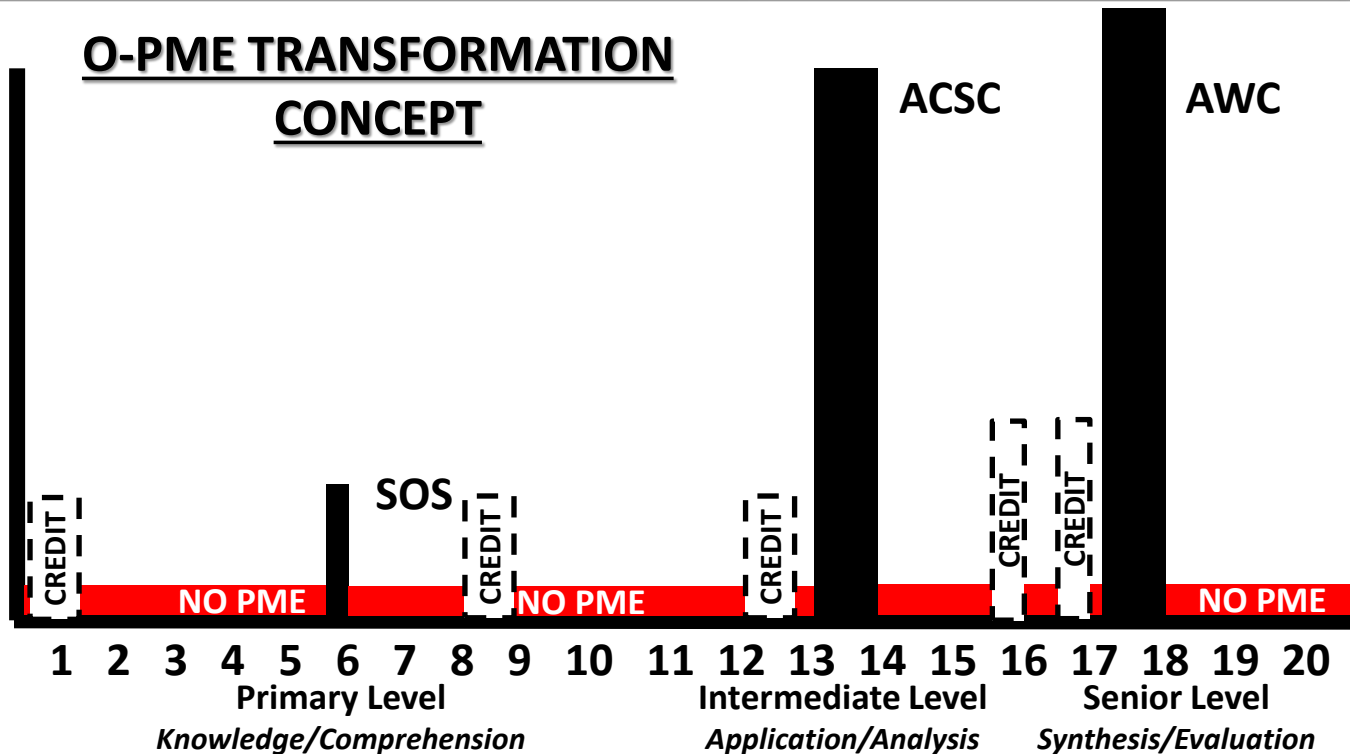


Current PME vs PME4L



O-PME TRANSFORMATION CONCEPT

- Rethink DL Courses
- Content Not Only AU's
- Offer Equiv Credits
- Flexible, Student-based

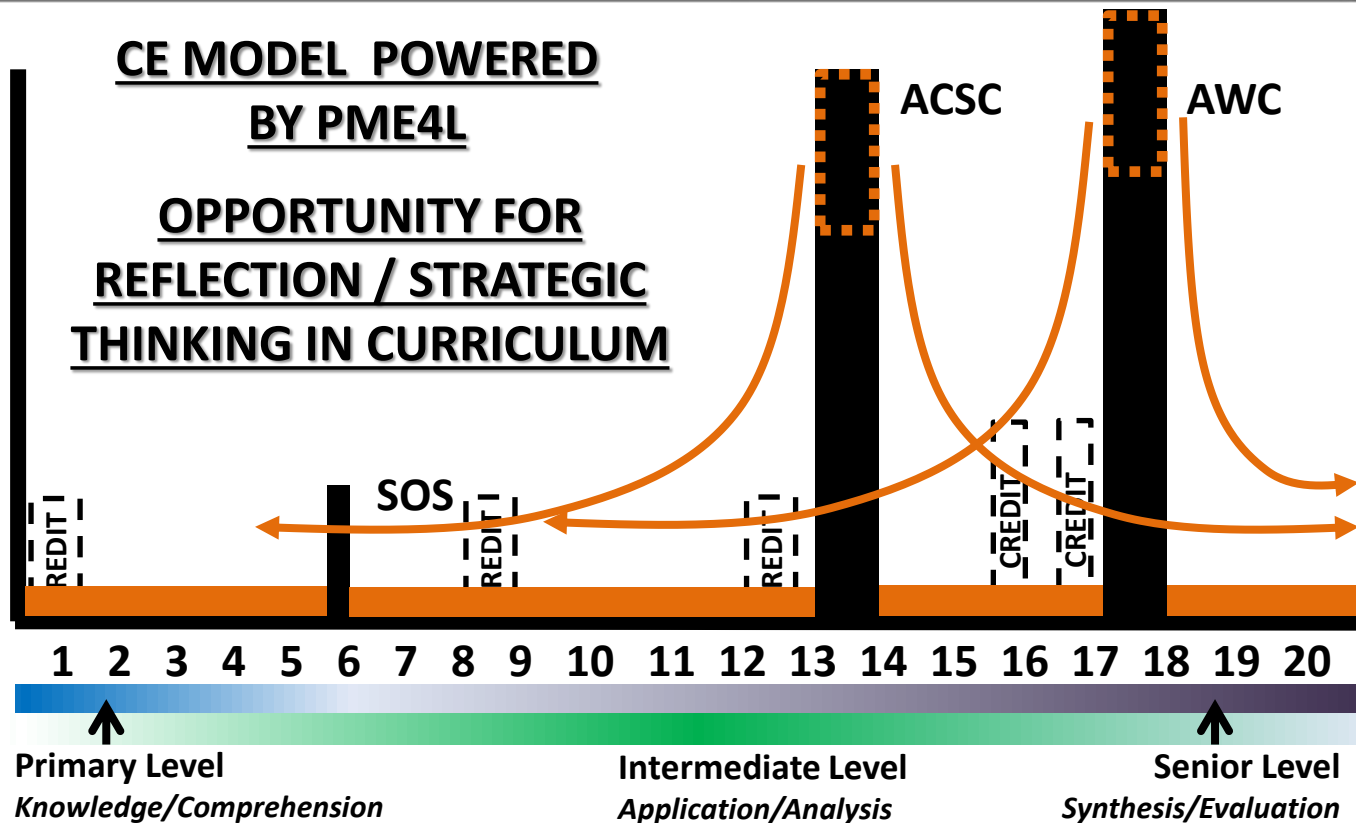




Current PME vs PME4L

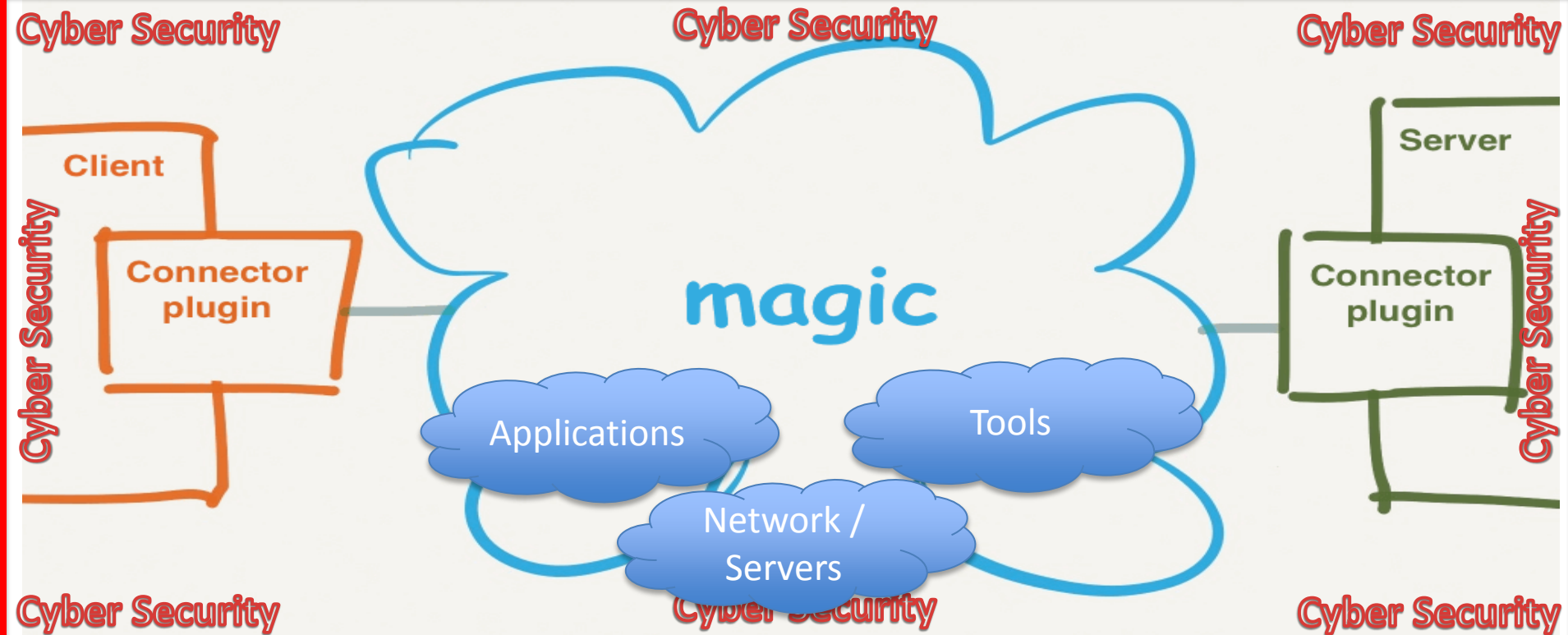


- Continuous PME
- Content Availability
- Airmen Teach AU Stnd
- Robust Collaboration



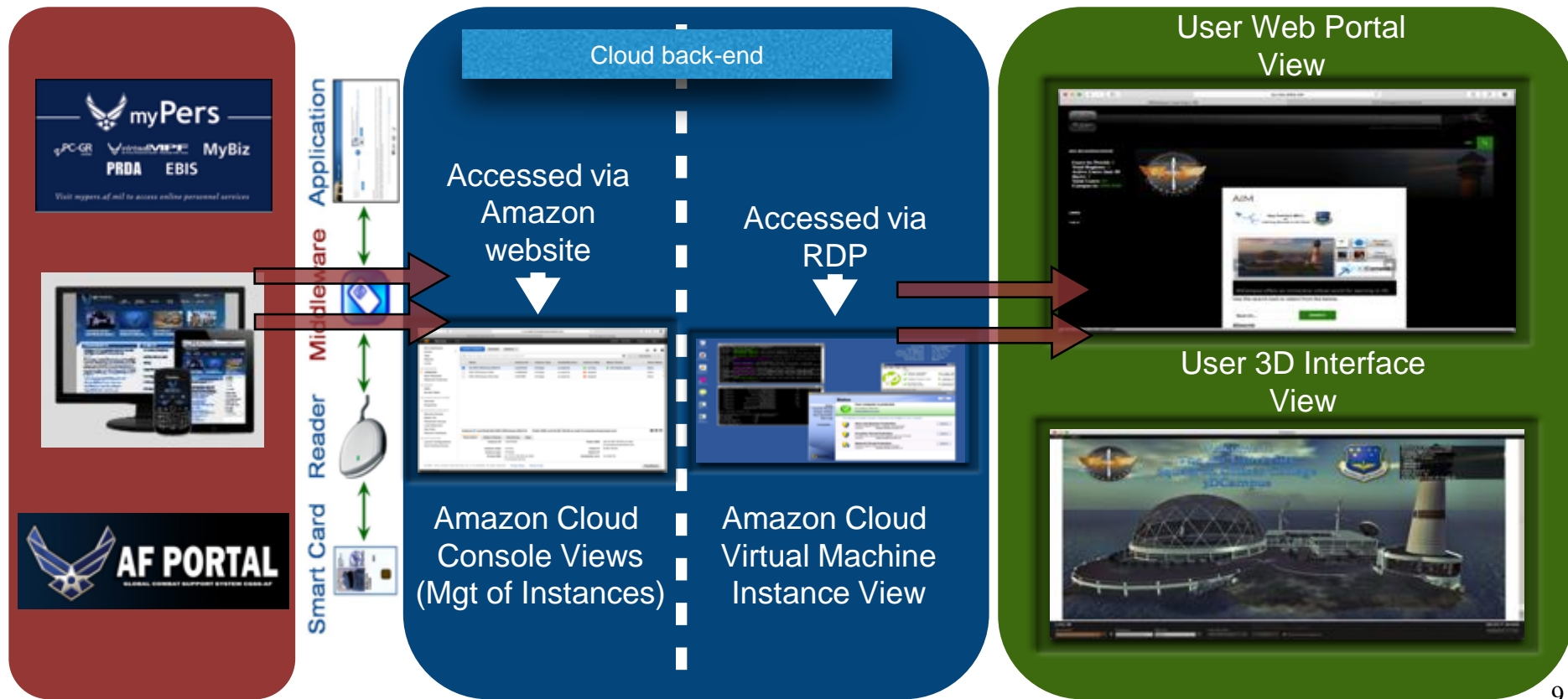


PME4L Architecture



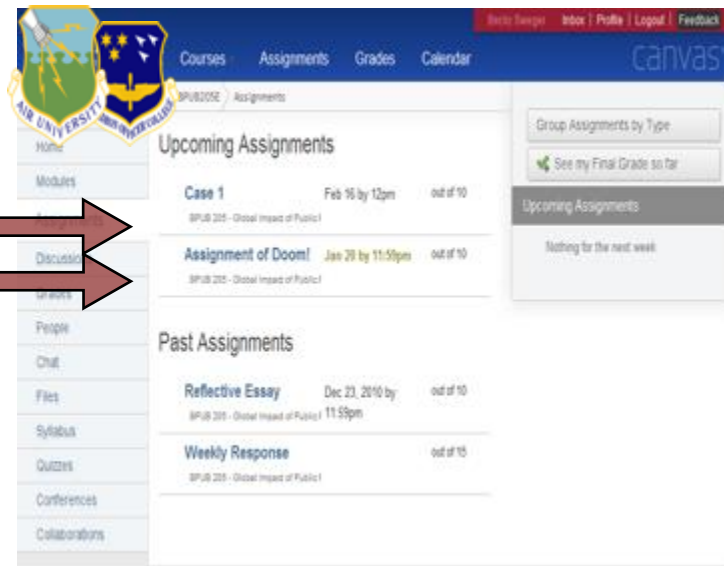
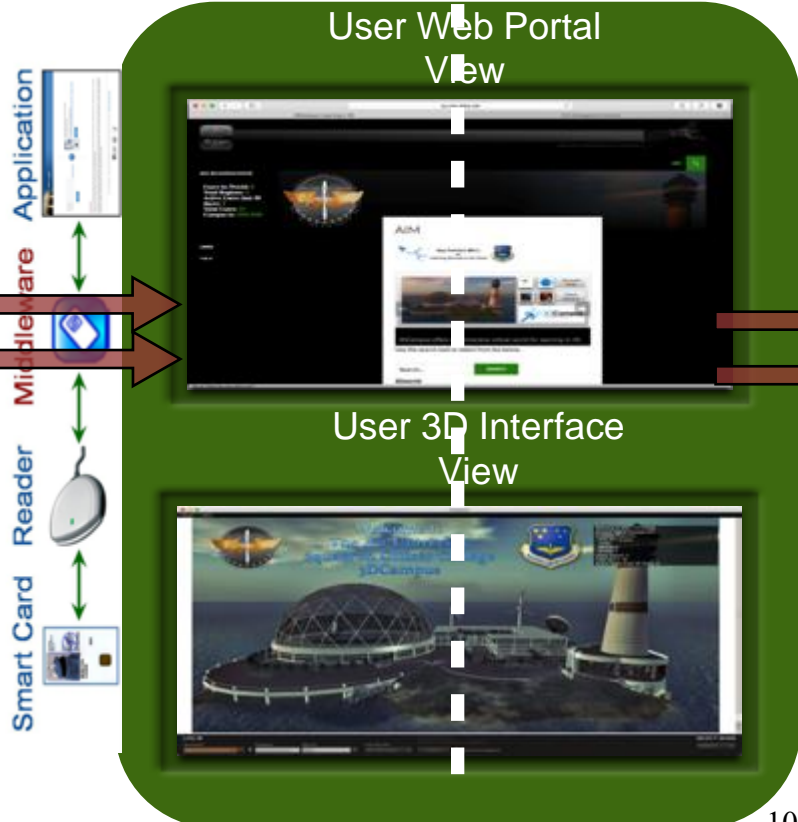


PME4L Cloud System



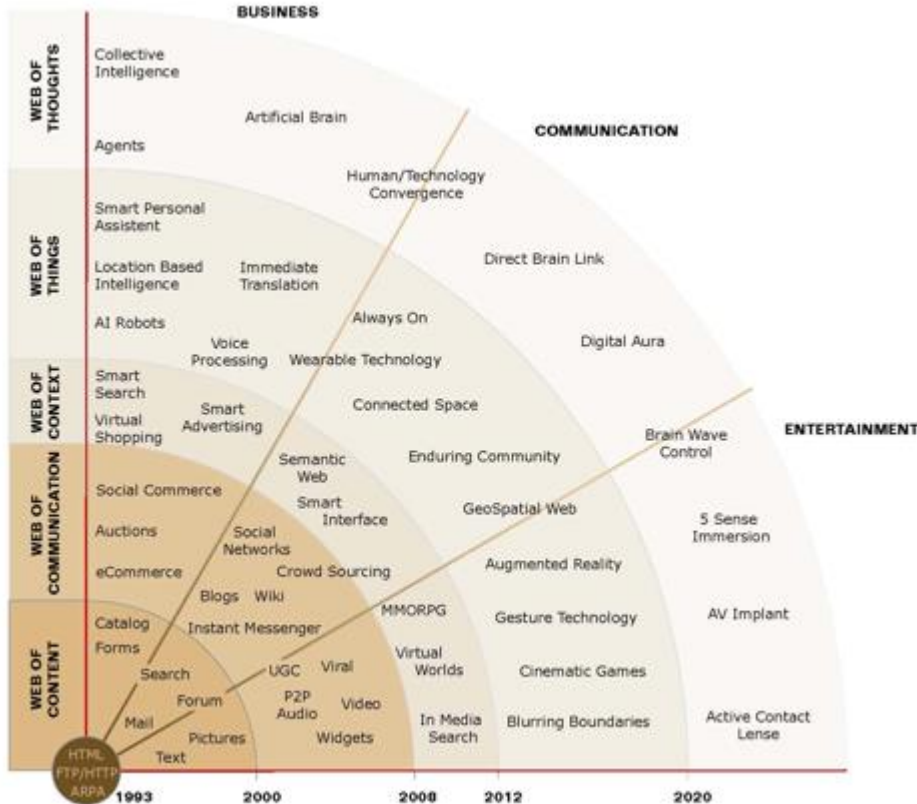


PME4L Cloud System





PME4L Capabilities



- Social Networking
- Virtual Think Tanks
- Crowd Sourced Message Boards
- Wiki pages
- Massive Open Online Courses



PME4L Profile



Home Profile Connections Jobs Interests

PME4L Campus

Network Guru at Mememe
Montgomery, Alabama Area · E-Learning

Education U.S. Air Force Institute of Technology

[Complete your profile](#) [Edit](#)

[www.linkedin.com/pub/pme4l-campus/775515887](#)

Background

Summary

To transform the current AF PME model into a lifelong Continuing Education model. For Life (PME4L) framework, a multi-dimensional technological platform that empowers Airmen at all levels to learn, teach, and mentor alongside traditional AF PME tools.

Experience

Network Guru

Mememe

Skills

Network Security E-campaigns Virtual Teams

Education

U.S. Air Force Institute of Technology
Master's Degree, E-Campus Development
2014 - 2017 (expected)

Community College of the Air Force
Associate's Degree, Criminal Justice/Law Enforcement Administration, 3.0
1996 - 2003

Get Recommended

Past

- Manager, Microsoft Custom App Team at LUCRUM
- Sr Business Solutions Architect at LUCRUM
- Systems Developer at USBank

Add Some Connections

Education

University of Cincinnati

Recommended

15 people have recommended Andy
2 managers, 7 reports, 3 co-workers, 2 clients, 1 partner

Connections

303 connections

Customize Your URL

Information Technology and Services

Answer Some Questions

Public Profile

<http://www.linkedin.com/in/andyerickson>

Questions & Answers

Expertise in:

- Using LinkedIn (2 best answers)
- Customer Service (1 best answer)

Recommend Others

All Updates

Private is Actually Starting to Work

Who's Viewed Your Profile

Who's Viewed Your Updates

PME4L, start getting noticed.

Jobs You May Be Interested In

Groups You May Like



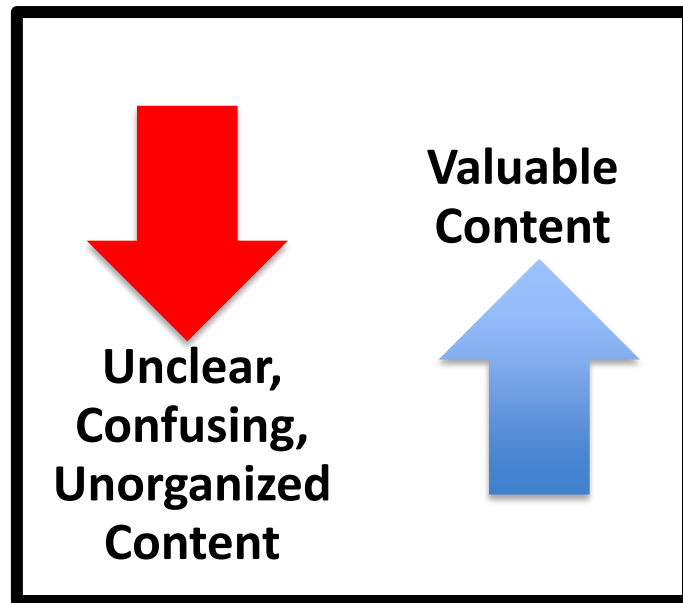
Collaboration Tools



- Optimize Airmen's shared experiences

- The Crowd Sourcing Model

- Individuals submit content
- Content is moderated
- Crowd votes up/down
- Best content rises to top





Collaboration Tools



- “Ask AU” Problem Solving
 - A question prompt/problem statement
 - Full crowd involvement
 - Curates best solutions
- “Ask Me Anything” Q & A
 - Involves the entire audience
 - Eliminates the fear of “going to the mic”
 - Filters unstructured, unclear, or confusing questions

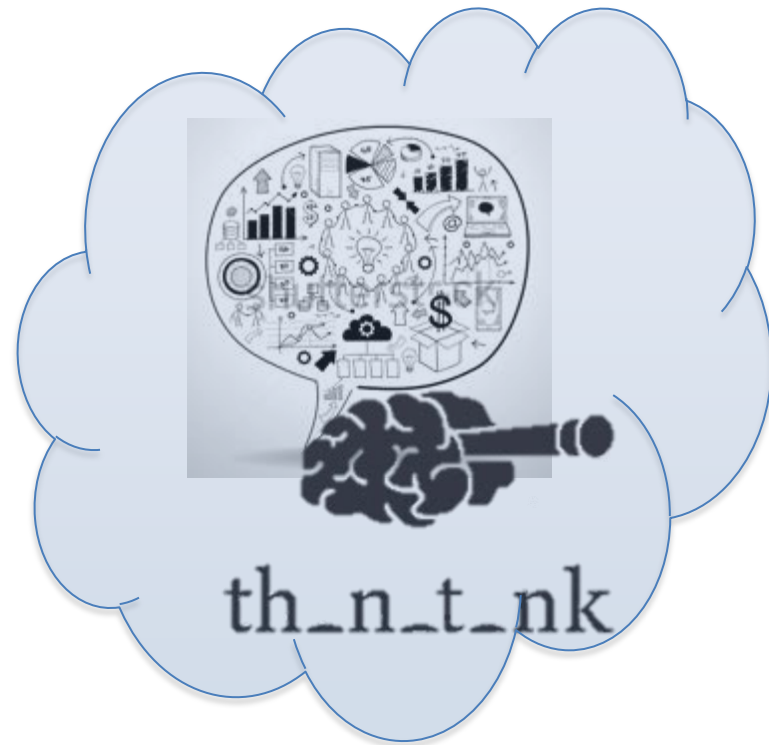




Collaboration Tools



- Wiki Pages
 - Collaborative Reference Database
 - Persistent and Living Encyclopedia
 - Tailored to PME
- Virtual Think Tank
 - Research from Home/ TDY Location
 - Peer/ Research Collaboration
 - Support issue-oriented topics
 - Active participation/ networking

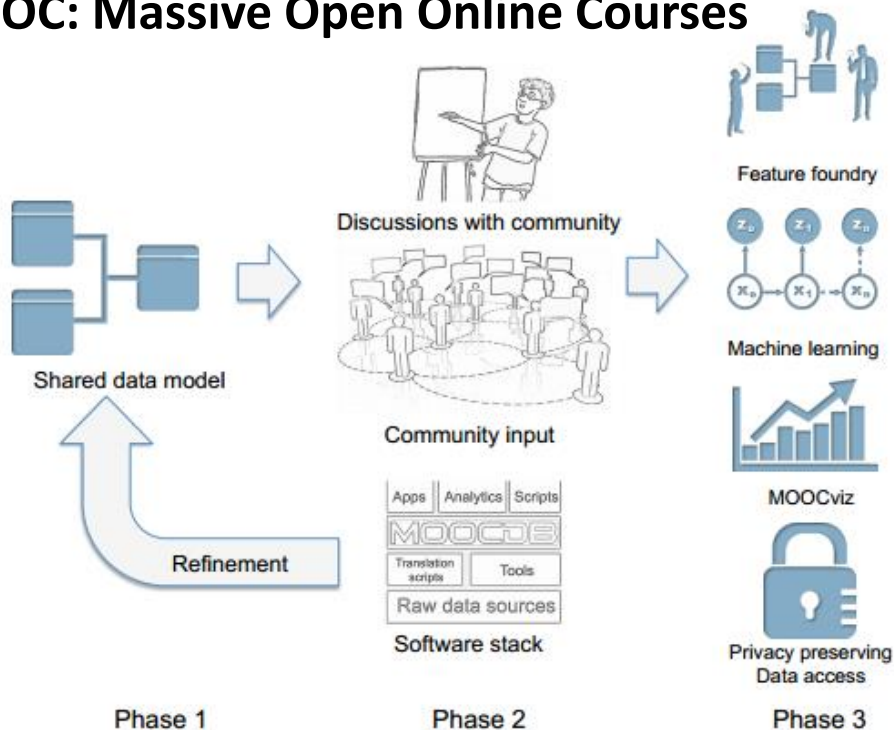




Collaboration Tools



MOOC: Massive Open Online Courses



Work with course providers to implement learning tools specific for each class.



Infrastructure



- 12.5 min/student/day waiting downloading courseware
- Resulting in 3500+ man-hours lost over the course of a 5-week class
- SOC classroom problematic internet drive students to dorm rooms

Current Infrastructure

- Bandwidth underlies all technology and content advances
- Bandwidth = capability
- Smart choices can realize a net 0 cost difference

Classroom

Lodging

Required



Costs and Benefits



COSTS	BENEFITS
<ul style="list-style-type: none">• Implementation of initial infrastructure• Initial course redesign, transition• System ops/maintenance• Manpower	<ul style="list-style-type: none">• Ops/maintenance efficiencies from combined courses• Improved analytics• Harness social networks• Reduce administrative burden on schools, instructors, students



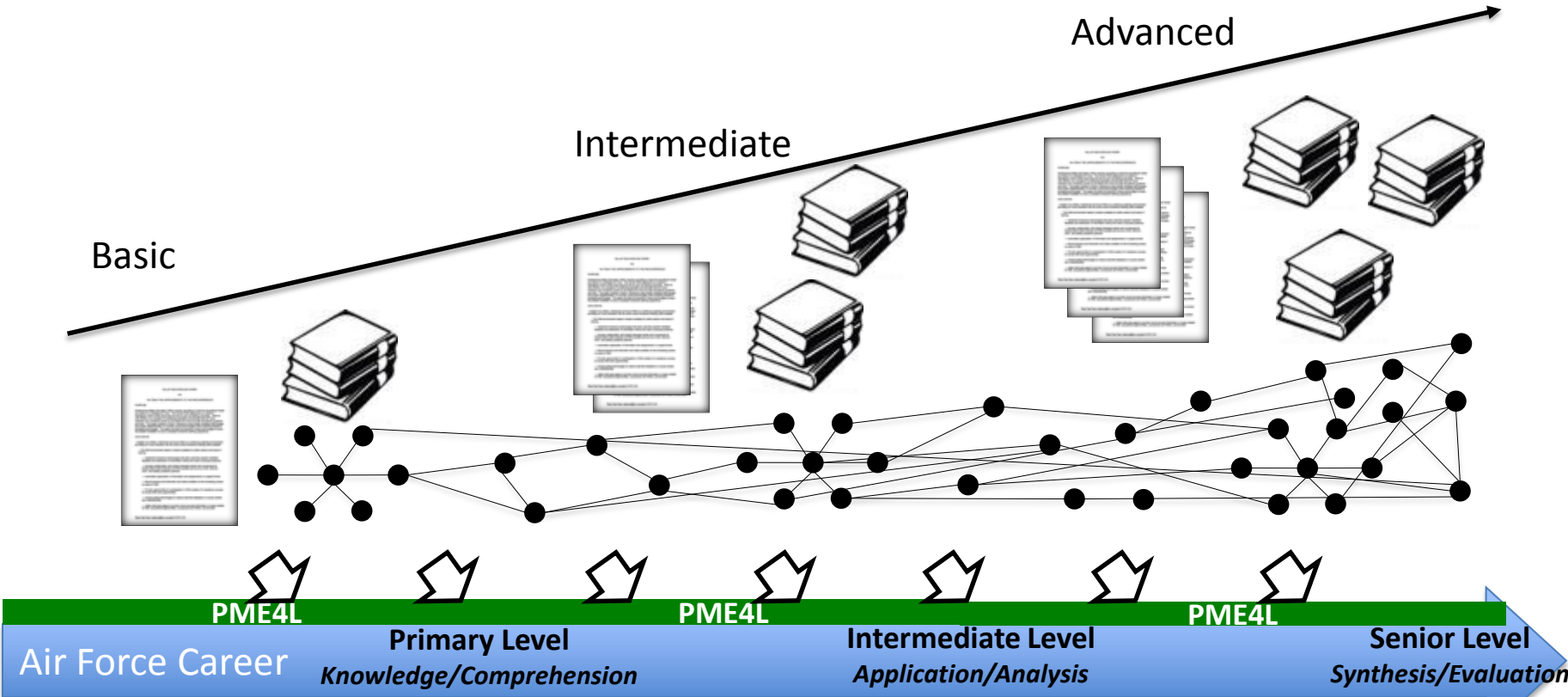
Summary



- **Current PME vs PME for Life (PME4L)**
- **PME4L Architecture**
- **Collaboration Tools**
- **Infrastructure**
- **Costs & Benefits**



PME4L Concept





Questions



15A Think Tank Group

SOS Think Tank

- Capt Ajvish Varatharaj
- Capt Alex Brannon
- Capt Andrew Caulk
- Capt Ben Taliaferro
- Capt Daniel O’Sullivan
- Capt David Butzin
- Capt Evan Gigas
- Capt Jiemin Hou
- Capt John Doyle
- Capt Katie Bopp
- Capt Maira Malhabour
- Capt Mark Traeger
- Capt Matthew Weiner
- Capt Nicholas Schaeffer
- Capt Paul McNiel
- Capt Rob Oehmke
- Capt Seth Wing
- Capt Shaun Lee
- Capt Shon Neal
- Capt Ted McDevitt
- Capt Tim Slechta
- Capt Ty Swarts
- Capt Will Indelicato

SOS Instructors

- Maj Dylan Bell
- Maj Dan Highlander
- Maj Ed Talley
- Capt Stacey Monaghan
- Capt Zigenfuss
- Capt Ryan Tamez

Senior Mentors

- Col Jill Singleton
- Col Richard Bailey
- Lt Col Paul Brezinski



Backup Slides



SOC 3DCAMPUS STATUS

Users In-World: 0
Total Regions: 4
Active Users (last 30 days): 9
Total Users: 27
Campus is: ONLINE



LINKS

Log in

LMS

	Canvas Learning Management System [Internal app via 3D-Campus]
	Canvas LMS mobile app for Apple devices [External link via 3DCampus]
	Canvas LMS mobile app for Android devices [External link via 3DCampus]
	Moodle Learning Management System [Internal app via 3D-Campus]
	Moodle LMS mobile app for Android devices [External app via 3DCampus]
	Moodle LMS mobile app for Apple devices [External app via 3DCampus]

Mobile

	Canvas LMS mobile app for Apple devices [External link via 3D-Campus]
	Canvas LMS mobile app for Android devices [External link via 3D-Campus]
	Educacasts app for Apple devices supporting educational broadcasting [Internal app via 3DCampus]
	Moodle LMS mobile app for Android devices [External app via 3DCampus]
	Moodle LMS mobile app for Apple devices [External app via 3D-Campus]

AIM



App Interface Menu
for
Learning Services in the Cloud



3DCampus offers an immersive virtual world for learning in 3D

Use the search tool or select from list below.

Search...

SEARCH

3Dworld

	Avatar account creation and management [Internal app via 3D-Campus]
	Firestorm Viewer download for accessing 3Dworld [External app via 3DCampus]
	Singularity Viewer download for accessing 3Dworld [External app via 3DCampus]
	Virtual world remote administration [Internal app via 3DCampus]

Click on App
icon





PME4L Architecture



- Single, standard, unified environment and framework for all PME
 - No change to current PME in-residence requirement
 - Delivers persistent access to PME across career
- Centralized management, decentralized execution
 - Cloud Based system
- Integration of current educational tech:
 - Learning Management System
 - Think Tank
 - Social networking
 - Additional capabilities- Learning Analytics, Wiki, Virtual Reality, VTC
- Maximum use of open-source and crowd-source principles
- Future emerging and immersive tech can be readily integrated
- Employs cyber security measures to ensure information is safe



PME4L Campus

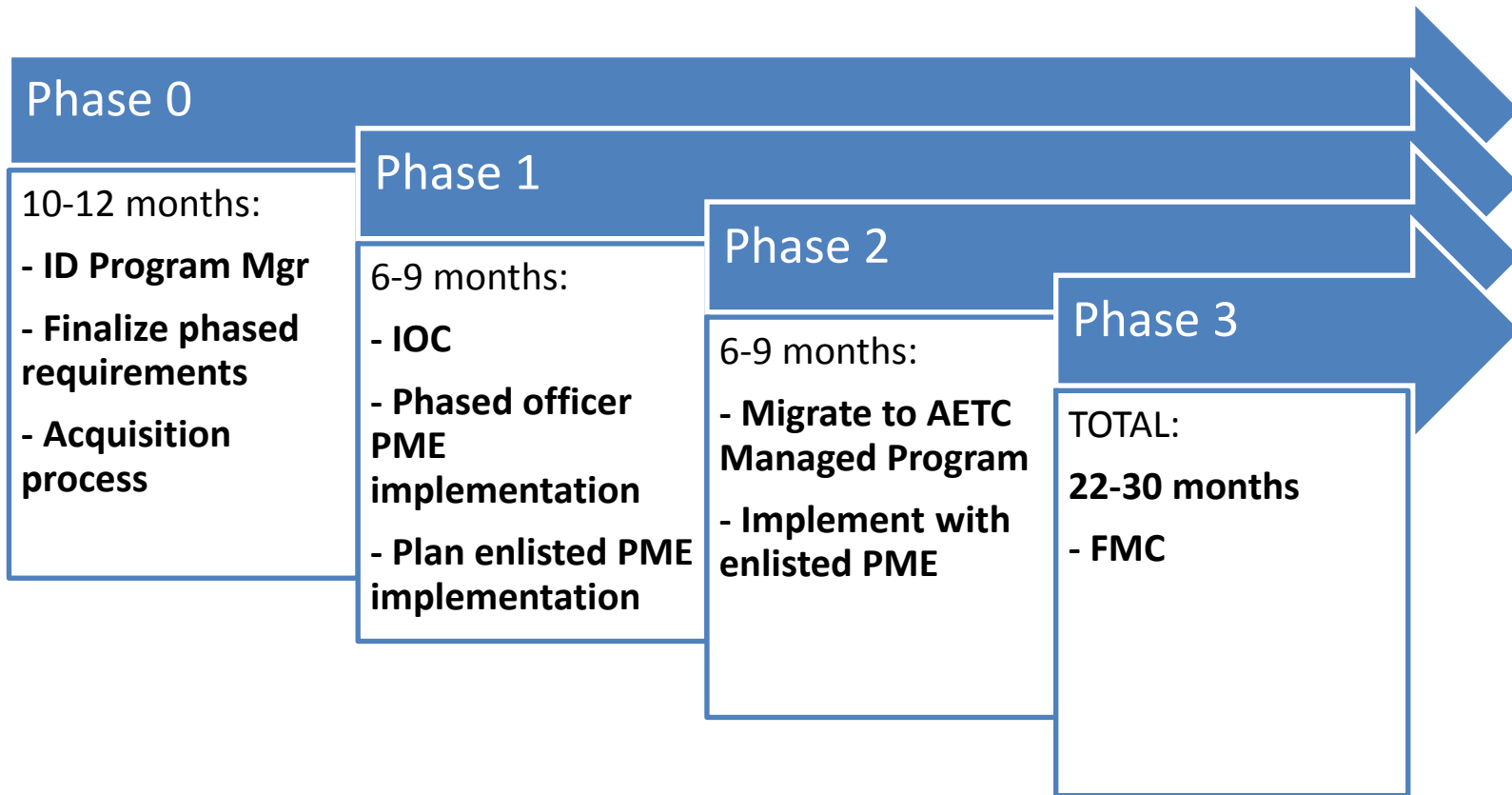


• Capabilities

- Crowd Sourced Message Boards
- Virtual Think Tanks
- Wiki pages
- Visual/ Auditory Content
- Social Networking
- Private Messaging/ Instant Messaging
- Automated/organized file structure
- Real-time observation & suggestion tools
- Individual Student/ Facilitator Dashboard
- Polling/ Real-time assessments
- Collaboration/ Real-time changes
- Revisions/ assignments/grading online
- Commenting on courseware
- Announcements
- Accountability
- Learning Analytics
- Massive Open Online Course (MOOC)
- Multiplayer Education Role Playing Game (MPERG)
- OS Applications/ Mobile Learning
- Immersive Video Teleconference



Implementation Plan





CURRENT PME ISSUES



- PME only available at touch-points in career
 - No requisite forum or support for a continuous PME
 - Course content only accessible to enrolled students
- Limited collaboration capabilities and data cohesion
 - No adaptive learning environment



CONTINUING EDUCATION MODEL



- Evolve PME into lifelong Continuing Education (CE)
 - Bedrocked on AU curriculum, standards, and in-res PME pillars
 - Airmen continuously sharpened In PME Core Areas...tailored to mission

- Empower & equip Airmen to learn, teach, mentor
 - PME4L enables transformation to a Culture of PME
 - All content available throughout a member's career



THE Ask Me Anything Ex. UNIVERSITY



I am a combat fighter pilot and current commander of the U.S. Air Force Thunderbirds. Ask Me Anything.

MILITARY submitted 1 year ago * (last edited 1 year ago) by afthunderbirds

I'm Lt. Col. Greg Moseley, "Thunderbird 1," lead pilot and commander of the Thunderbirds, your U.S. Air Force's official jet demonstration team (www.afthunderbirds.com). My job is to lead more than 120 people who wear the Thunderbirds uniform, charged with demonstrating American air power and representing our fellow Airmen to millions of people around the world.

[+] solidcopy 379 points 1 year ago

How do you think the emergence of new stealth fighter aircraft (such as China's J-31 and J-20) will change the future of air-to-air combat? Will there be a return to traditional dogfighting because of the difficulty of acquiring a radar or infrared lock-on against a low-observable target?

[+] chicken-Mcfly 181 points 1 year ago

For an experienced pilot like you, which one is your favorite WWII airplane and why?



Vision



To transform the *current* AF PME *model* into a *lifelong* Continuing Education model, powered by the *PME For Life (PME4L) framework*, a multi-dimensional *technological platform* that empowers and *equips Airmen* at all levels to learn, teach, and mentor *alongside traditional AF PME* touch-points.

EC2 Stack Rapid Elastic Deployment Zones

Primary
Instance
Server Farm

U.S. West
(Oregon)

Scale
Instance
Server Farm

Asia Pacific
(Singapore)

Failover
Instance
Server Farm

U.S. West
(N. California)

Scale
Instance
Server Farm

Asia Pacific
(Tokyo)

Scale
Instance
Server Farm

U.S. East
(N. Virginia)

Scale
Instance
Server Farm

Asia Pacific
(Sydney)

Scale
Instance
Server Farm

EU
(Ireland)

Scale
Instance
Server Farm

South America
(Sao Paulo)

The Air University A3/6OI Cloud Formation Prototype Stack 1.2

IaaS Framework

Infrastructure

Operating Systems



Databases



Storage



Servers



PaaS Framework

Cloud-Bridged Services

Help Desk Service



Learning Management



Student Information



Survey Tools



SaaS Framework

2D Learning Technologies

EDTC Usage Plugins



Mobile Learning



Learning Portfolio



Social Media



User Gateways

Web Services Bridge Portal



3D Viewer



Primary
Instance
Server Farm

U.S. West
(Oregon)

Immersive Locomotion



3D Learning Platforms

Collaborative Event Spaces



Starter Spaces



3D Learning Technologies

Modular Learning Sims



The Air University Air Force Education Cloud Universe

The Air University Major Intellectual and Leadership Centers

**LeMay
Center**

Doctrine Development
and Education

**Spaatz
Center**

Officer Education

**Holm
Center**

Officer Accessions and
Citizen Development

**Barnes
Center**

Enlisted Education

**Eaker
Center**

Professional Development

**AF Institute of
Technology**

Learning Modules (Multiple Pathways for Credit)
(Based on Competencies and Habits of Mind for the Profession of Arms)

**Resident PME, PCE
Program Credit**

**Distance PME, PCE
Program Credit**

**Outside Transfer
Credit**

**Operational Experience
Credit**

**Self-Development
Credit**

Comprehensive Credit Assignment System (CCAS)

Airman's Career-Span Profession-of-Arms Education Portfolio

The United States Air Force Profession of Arms Cloud Campus
(Supporting career-long learning and connectivity persistence of Airmen to Air University)

AF Education Cloud Universe System-of-Systems Service Bus
(Supporting connective and shared infrastructures, interoperable systems, data exchanges, services, digital resources across AU Centers, among resident and distance programs, faculty, students, & staff)

**Education Cloud
Portfolio Mgt
Services**

**Academic Systems
Mgt Services**

**Advanced Learning
Technology
Services**

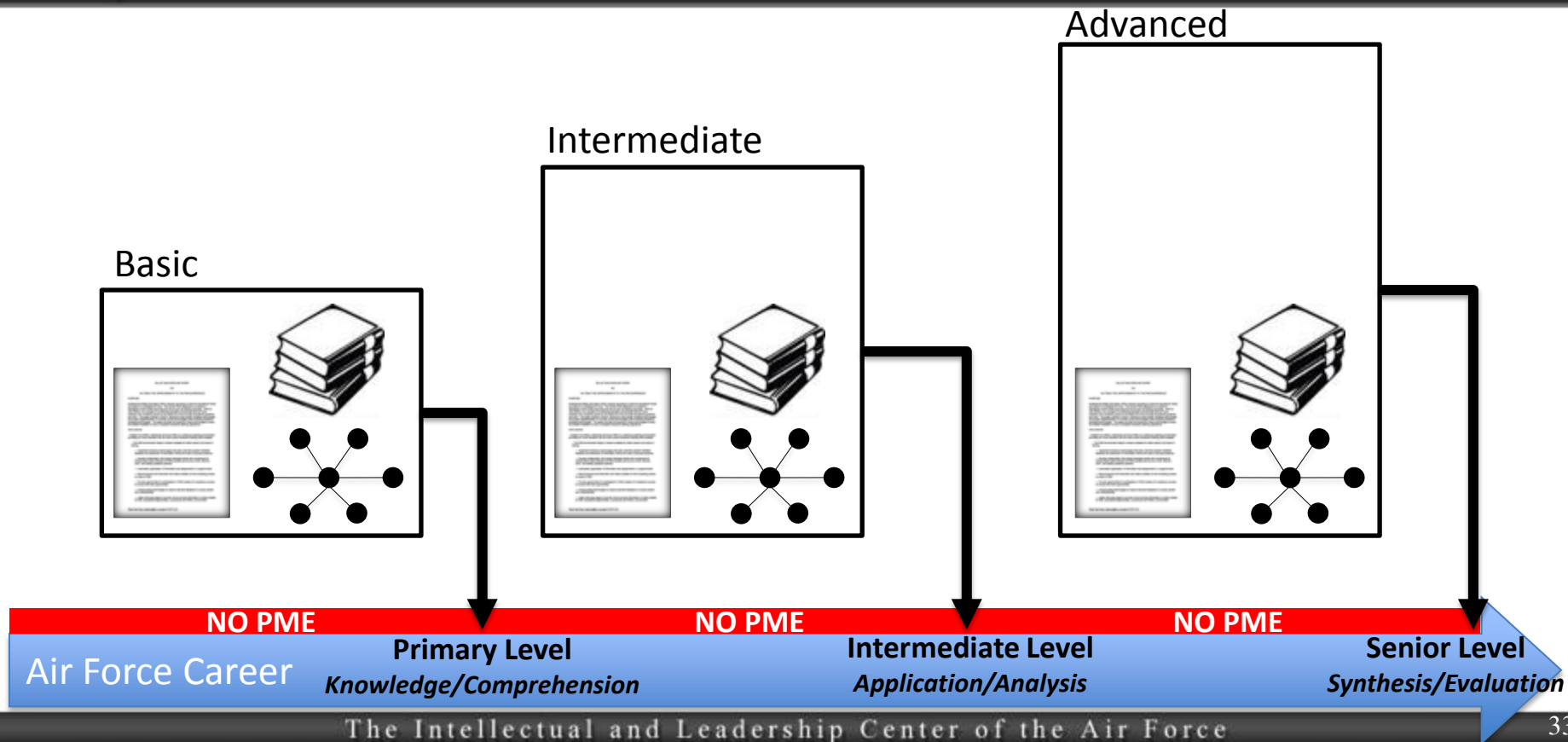
**Student and
Faculty Help
Support Services**

**Student and
Faculty Research
Services**

Outreach Services



Current PME Structure





Continuing Education Model



- Career-long progression of learning
- Bedrocked on current AU curriculum & standards
- Enables units to tailor PME towards mission
- Annual credits towards Airman's career PME





Continuing Education Model



- Put Profession of Arms on same level as other professional careers; earn professional credits towards civilian credentials
- Require career long progression of learning tracked with Continuing Education (CE) model
- Leadership will be the core focus of learning in the Profession of Arms but customizable to individual needs
- Yearly quota to ensure leadership is being taught throughout the Airmen's career





Cloud Computing



- What is cloud computing?

...increased freedom from locality-based computing constraints by leveraging usage of software applications, IT tools, operating systems, servers, storage and networks across the web

Three main parts of cloud computing (the model):

Software-as-a-Service (SaaS) - The applications

Platform-as-a-Service (PaaS) - The tools/services

Infrastructure-as-a-Service (IaaS) - The servers, storage, networks, and operating systems



PME4L Architecture



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 - Think Tank
 - Social networking
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- Future emerging and immersive tech can be readily integrated
- Employs cyber security measures to ensure information is safe



Timeline



Acquisition Req't Phase 0

• 9-12 months:

- AU PME4L program manager and support staff identified
- Release task
- Specify requirements
- Approval to Operate

Acquisition & Planning Phase 1

• 7-10 months:

- Work acquisition
- Identify PME course POCs – FTAC, NCOA, etc
- System implementation
- Coordinate data migration plan

Data Migration Phase 2

• 5-8 months:

- Migrate data onto new system
- Extend digital integration

Cloud Computing Phase 3

• 3-6 months:

- Optimize cloud computing/ layering technologies

Implementation Phase 4

• TOTAL:

24-36 months

- PME4L staged rollout



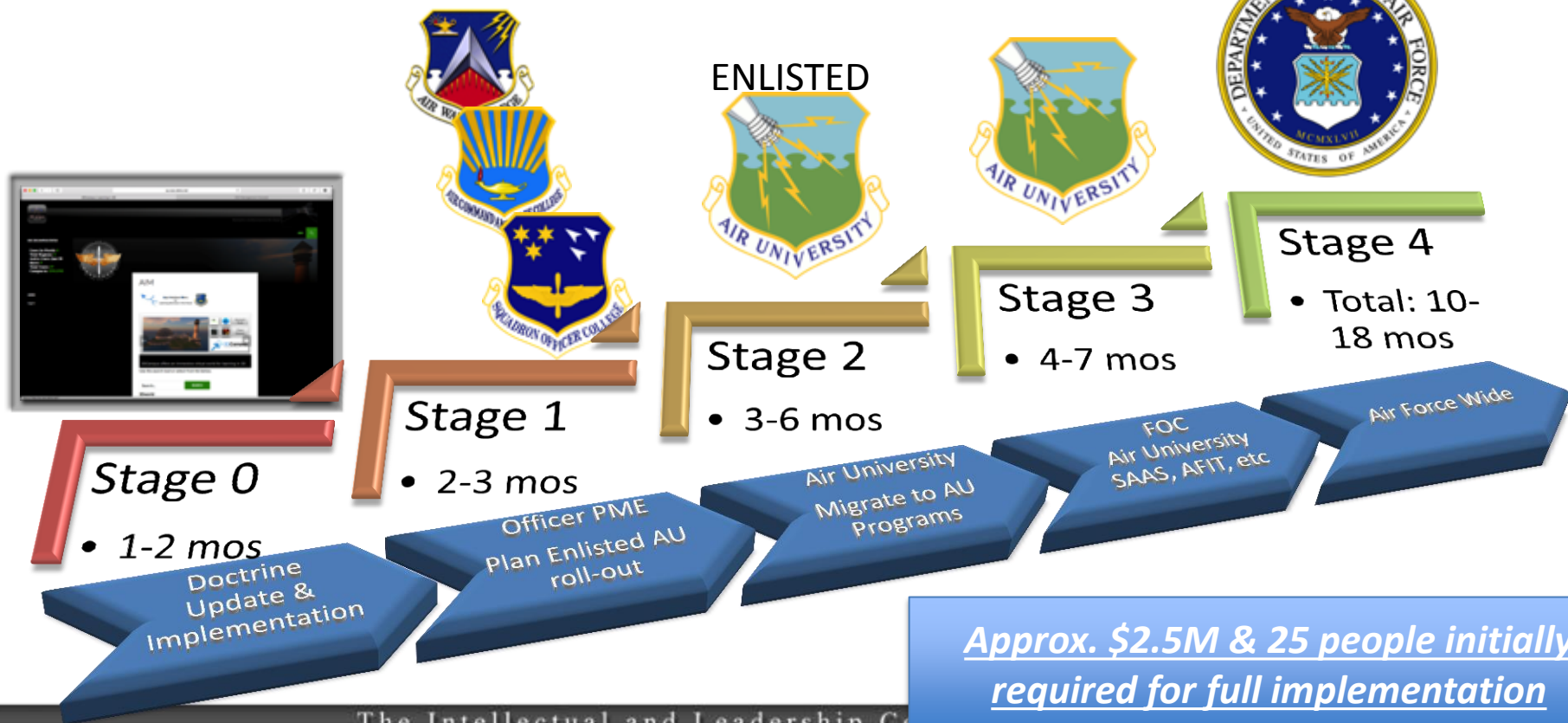
Vision



- Transform the current AF PME model
- Develop a career-long Continuing Education model
- Powered by a single comprehensive technological platform
- Empower and equip Airmen to learn, teach, mentor



PME4L Implementation



Approx. \$2.5M & 25 people initially required for full implementation